Exhibit 2

References Cited

Exhibit(s)	Description	Link
Exhibit A	Canon Digital Radiography Systems	https://global.canon/en/technology/support01.html
Exhibit B	CXDI Control System NE – DICOM Conformance Statement	https://www.shimadzu.com/med/sites/shimadzu.com.med/files/products/dicomihe/k25cur0000002w0b-att/BT8-1449_E01.pdf
Exhibit C	CXDI Control System NE – Setup Guide	https://manualzz.com/doc/6708361/cxdi-control-software-ne-setup-guide
Exhibit D	CXDI Control System NE - Features	https://mcu.canon/internet/portal/vi/home/products/details/digital-radiography-fluoroscopy/software-solutions/cxdi-control-software-ne/cxdi-control-software-ne
Exhibit E	CXDI-80C Wireless Digital Radiography System - Features	https://www.usa.canon.com/internet/portal/us/home/products/details/digital-radiography-fluoroscopy/digital-detectors/cxdi-80c
Exhibit F	CXDI-80C Wireless Digital Radiography System - Specifications	http://downloads.canon.com/nw/pdfs/healthcare/cxdi-80c-specs.pdf
Exhibit G	DICOM Message Structure and Command Set	http://dicom.nema.org/dicom/2013/output/chtml/part07/sect_6.3.html
Exhibit H	Basic DICOM Concepts – Seminar	http://dicom.nema.org/dicom/Conf-2005/Day-1_Seminar/B11_Simon_BasicDICOMConcepts_v1.pdf
Exhibit I	Wavelet Transform in JPEG Compression	http://www.otpedia.com/entryDetails.cfm?id=213
Exhibit J	DICOM Supplement - JPEG 2000 Compression	http://dicom.nema.org/dicom/supps/sup61_04.pdf
Exhibit K	Wavelet Compression Algorithm	https://www.nlm.nih.gov/research/visible/vhpconf98/AUTHORS/PARK/SECTION2.HTM

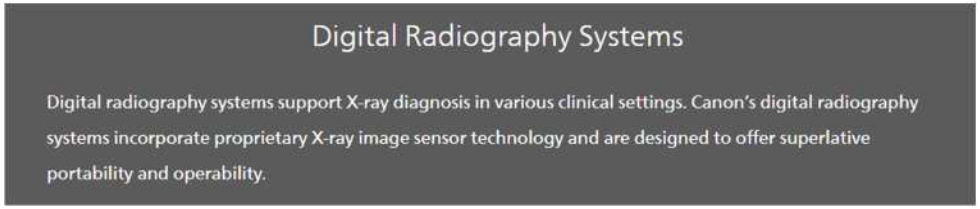
US8588537B2	Canon CXDI Digital Radiography Systems including but not limited to CXDI-80C, CXDI 10 Series, and CXDI-02 Series (accused product)
1Pre. A method comprising: **1a.** compressing one or more samples of data corresponding to at least one image based in part on generating a plurality of wavelet coefficients corresponding to the sampled data;	The accused product practices a method comprising compressing one or more samples of data corresponding to at least one image based in part on generating a plurality of wavelet coefficients corresponding to the sampled data. Canon CXDI Digital Series of Wireless Digital radiography systems offer portability and operability. These products can be used not only in general X-ray rooms but also in locations such as patients' bedsides and operating rooms to make possible low-stress X-ray imaging for both radiological technologists and patients. See Fig. 1 - Fig. 3 **Citation 1: Digital Radiography Systems**  Fig. 1 Source: https://global.canon/en/technology/support01.html, Page 1, Last accessed on September 29, 2020, Exhibit A **Citation 2: CXDI-80C Wireless Digital Radiography System**

Fig. 2

Source: https://www.usa.canon.com/internet/portal/us/home/products/details/digital-radiography-fluoroscopy/digital-detectors/cxdi-80c, Page 1, Last accessed on September 29, 2020, Exhibit E

Citation 3: Wireless Digital Radiography Systems

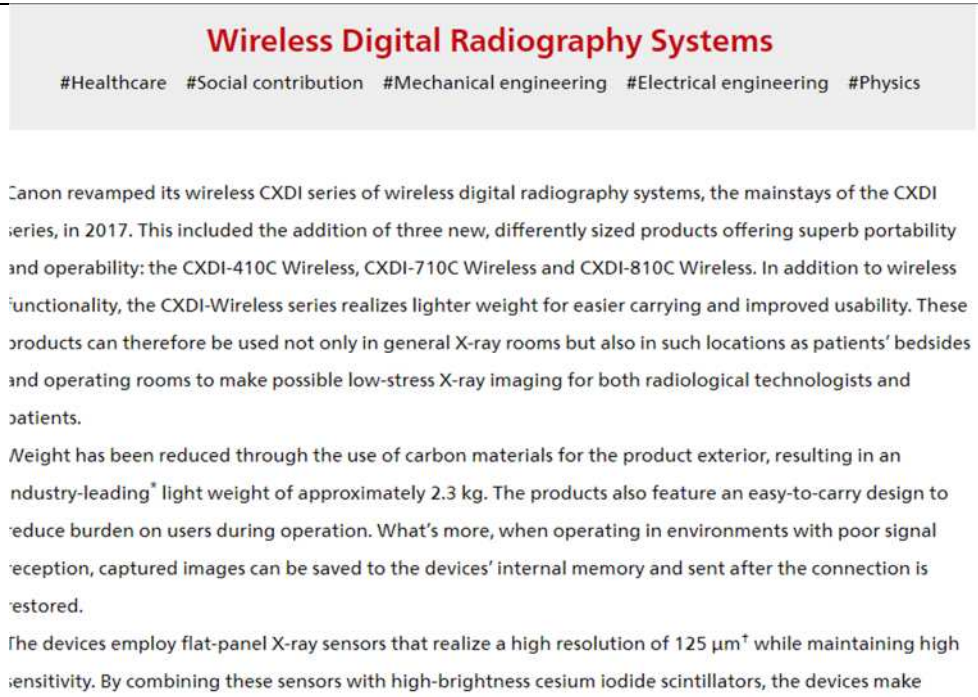


Fig. 3

Source: https://global.canon/en/technology/support01.html, Page 3, Last accessed on September 29, 2020, Exhibit A

Canon CXDI Radiography Systems (i.e., accused product) uses specially developed control software (like CXDI Control Software NE) to perform operations such as imaging control, image processing, and export of captured images. See Fig. 4

Citation 4: Control Software

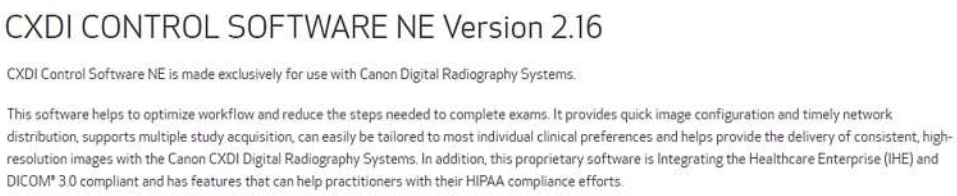
The CXDI series uses specially developed control software to perform such operations as imaging control, image processing and export of captured images. Through the use of this software, which includes image processing functions to reduce noise, increase contrast and adjust dynamic range‡, the devices deliver images more suitable for diagnosis. In addition, the software can be linked to hospital information systems and other networks. This enables technicians to share captured images and patient information within a hospital, facilitating smoother operations in clinical settings.

Fig. 4

Source: https://global.canon/en/technology/support01.html, Page 4, Last accessed on September 29, 2020, Exhibit A

The CXDI Control Software NE is DICOM compliant as shown in Fig. 5. The accused product generates DICOM messages comprising the encoded data of an image. The DICOM messages are used to communicate medical information (e.g., X-ray images and CT images) across the DICOM network (e.g., an X-Ray scanner and a Patient Information Storage server). See Fig. 6 and Fig. 7

Citation 5: CXDI CONTROL SOFTWARE NE and DICOM Complaint



CXDI CONTROL SOFTWARE NE Version 2.16

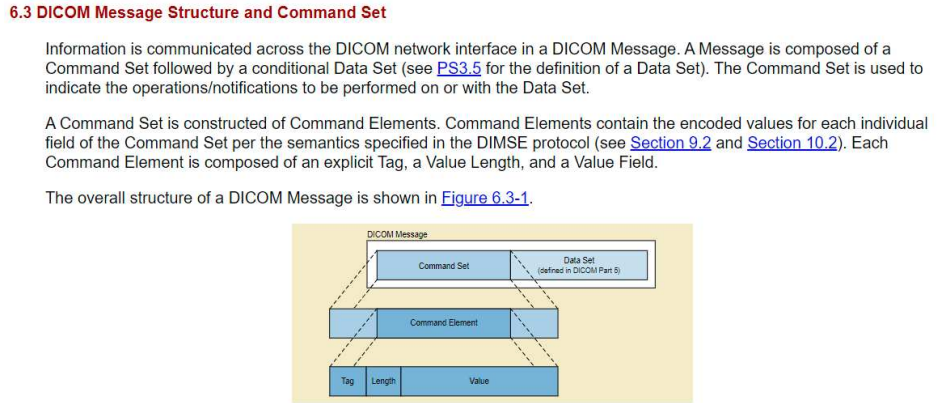
CXDI Control Software NE is made exclusively for use with Canon Digital Radiography Systems.

This software helps to optimize workflow and reduce the steps needed to complete exams. It provides quick image configuration and timely network distribution, supports multiple study acquisition, can easily be tailored to most individual clinical preferences and helps provide the delivery of consistent, high-resolution images with the Canon CXDI Digital Radiography Systems. In addition, this proprietary software is Integrating the Healthcare Enterprise (IHE) and DICOM® 3.0 compliant and has features that can help practitioners with their HIPAA compliance efforts.

Fig. 5

Source: https://mcu.canon/internet/portal/vi/home/products/details/digital-radiography-fluoroscopy/software-solutions/cxdi-control-software-ne/cxdi-control-software-ne, Page 1, Last accessed on September 29, 2020, Exhibit D

Citation 6: DICOM messages



6.3 DICOM Message Structure and Command Set

Information is communicated across the DICOM network interface in a DICOM Message. A Message is composed of a Command Set followed by a conditional Data Set (see PS3.5 for the definition of a Data Set). The Command Set is used to indicate the operations/notifications to be performed on or with the Data Set.

A Command Set is constructed of Command Elements. Command Elements contain the encoded values for each individual field of the Command Set per the semantics specified in the DIMSE protocol (see Section 9.2 and Section 10.2). Each Command Element is composed of an explicit Tag, a Value Length, and a Value Field.

The overall structure of a DICOM Message is shown in Figure 6.3-1.

Fig. 6

	Source: http://dicom.nema.org/dicom/2013/output/chtml/part07/sect_6.3.html, Page 1, Last accessed on April 8, 2021, Exhibit G **Citation 7: DICOM messages** **Protocol Data Unit (PDU)** – a packet (piece) of a DICOM message sent across the network. Devices must specify the maximum size packet they can receive for DICOM messages. Fig. 7 Source: https://www.shimadzu.com/med/sites/shimadzu.com.med/files/products/dicomihe/k25cur0000002w0b-att/BT8-1449_E01.pdf, Page 9, Last accessed on September 29, 2020, Exhibit B The DICOM standard specifies a Transfer Syntax that allows the communicating entities (e.g., an image capturing client and server) to negotiate common encoding techniques (e.g., image compression) that applies to the encoding rules for the Data Set portion of the DICOM message (i.e., corresponding to at least one image). See Fig. 8 and Fig. 9 **Citation 8: DICOM Message Transfer Syntax** **Transfer Syntax** – the encoding used for exchange of DICOM information objects and messages. Examples: *JPEG* compressed (images), little endian explicit value representation.

Fig. 8

Source: https://www.shimadzu.com/med/sites/shimadzu.com.med/files/products/dicomihe/k25cur0000002w0b-att/BT8-1449_E01.pdf, Page 9, Last accessed on September 29, 2020, Exhibit B

Citation 9: DICOM Message Transfer Syntax

DICOM specifies a number of network services and types of information objects, each of which is called an **Abstract Syntax** for the Negotiation. DICOM also specifies a variety of methods for encoding data, denoted **Transfer Syntaxes**. The Negotiation allows the initiating Application Entity to propose combinations of Abstract Syntax and Transfer Syntax to be used on the Association; these combinations are called **Presentation Contexts**. The receiving Application Entity accepts the Presentation Contexts it supports.

Fig. 9

Source: https://www.shimadzu.com/med/sites/shimadzu.com.med/files/products/dicomihe/k25cur0000002w0b-att/BT8-1449_E01.pdf, Page 10, Last accessed on September 29, 2020, Exhibit B

DICOM Transfer Syntaxes can encode a JPEG 2000 compressed pixel data as shown in Fig. 10.

Citation 10: DICOM Transfer Syntaxes for Data Set Encoding

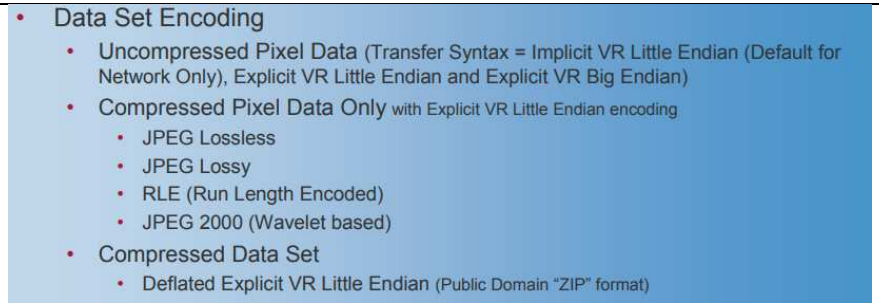
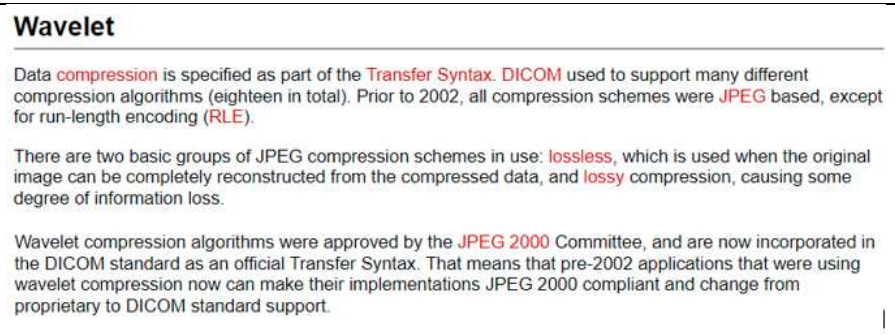


Fig. 10

Source: http://dicom.nema.org/dicom/Conf-2005/Day-1_Seminar/B11_Simon_BasicDICOMConcepts_v1.pdf, Page 17, Last accessed on April 8, 2021, Exhibit H

Additionally, the JPEG 2000 compression technique is based on Discrete Wavelet Transform that utilizes the said wavelet coefficients to compress the image, which is then encoded and used. Accordingly, compressing one or more samples of data corresponding to at least one image based in part on generating a plurality of wavelet coefficients. See Fig. 11

Citation 11: JPEG 2000 Compression Scheme using Wavelet Compression Algorithm



Wavelet

Data compression is specified as part of the Transfer Syntax. DICOM used to support many different compression algorithms (eighteen in total). Prior to 2002, all compression schemes were JPEG based, except for run-length encoding (RLE).

There are two basic groups of JPEG compression schemes in use: lossless, which is used when the original image can be completely reconstructed from the compressed data, and lossy compression, causing some degree of information loss.

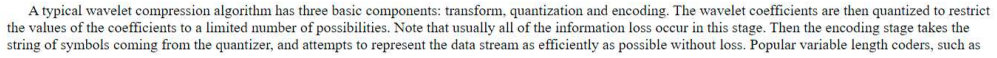
Wavelet compression algorithms were approved by the JPEG 2000 Committee, and are now incorporated in the DICOM standard as an official Transfer Syntax. That means that pre-2002 applications that were using wavelet compression now can make their implementations JPEG 2000 compliant and change from proprietary to DICOM standard support.

Fig. 11

Source: http://www.otpedia.com/entryDetails.cfm?id=213, Page 1, Last accessed on April 8, 2021, Exhibit I

As an example, a typical wavelet compression algorithm uses wavelet coefficients in wavelet transform. The wavelet coefficients are quantized and later encoded into the data stream of the compressed bitstream. See Fig. 12

Citation 12: Wavelet Compression Algorithm using Wavelet Coefficients



A typical wavelet compression algorithm has three basic components: transform, quantization and encoding. The wavelet coefficients are then quantized to restrict the values of the coefficients to a limited number of possibilities. Note that usually all of the information loss occur in this stage. Then the encoding stage takes the string of symbols coming from the quantizer, and attempts to represent the data stream as efficiently as possible without loss. Popular variable length coders, such as

Fig. 12

	Source: https://www.nlm.nih.gov/research/visible/vhpconf98/AUTHORS/PARK/SECTION2.HTM, Page 1, Last accessed on April 8, 2021, Exhibit K
1b. generating, via a processor, one or more messages comprising at least one of the wavelet coefficients, each of the messages comprising content denoting that one or more detected errors below a predetermined threshold are insufficient to inhibit reconstruction of the image; and	The method practiced by the accused product comprises, generating, via a processor, one or more messages comprising at least one of the wavelet coefficients, each of the messages comprising content denoting that one or more detected errors below a predetermined threshold are insufficient to inhibit reconstruction of the image; and As shown, the accused product uses DICOM compliant CXDI Control Software NE and generates DICOM messages for exchanging information (e.g., X-Ray image). The CXDI Control Software NE uses a processor (i.e., generating, via a processor) for the generation of DICOM messages as shown in Fig. 13 and Fig. 14. **Citation 13: CXDI Control Software NE – Hardware Configuration**

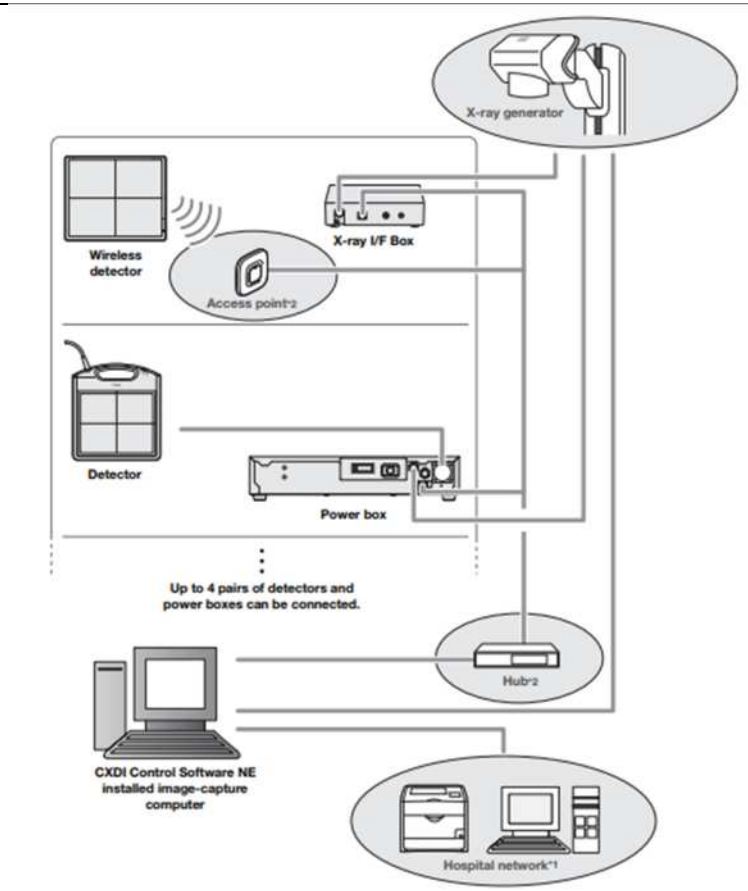


Fig. 13

Source: https://manualzz.com/doc/6708361/cxdi-control-software-ne-setup-guide, Page 8, Last accessed on September 29, 2020, Exhibit C

Citation 14: CXDI Control Software NE – Hardware Requirements

1.2 Hardware requirements

Image-capture computer

- Intel® Core™2 Duo 2.0 GHz or faster processor
- 4 GB or more of RAM
- 50 GB or more of available hard-disk space (200 GB of free space is required at installation)

Fig. 14

Source: https://manualzz.com/doc/6708361/cxdi-control-software-ne-setup-guide, Page 9, Last accessed on September 29, 2020, Exhibit C

As indicated in the supporting evidence for the previous claim limitation, the DICOM message's encoding follows the supported DICOM Transfer Syntaxes that can encode a JPEG 2000 compressed pixel data. Furthermore, the JPEG 2000 compression technique is based on Discrete Wavelet Transform that utilizes the said wavelet coefficients to compress the image, which is then encoded and used (i.e., one or more messages comprising at least one of the wavelet coefficients). See Fig. 15 and Fig. 16

Citation 15: DICOM messages

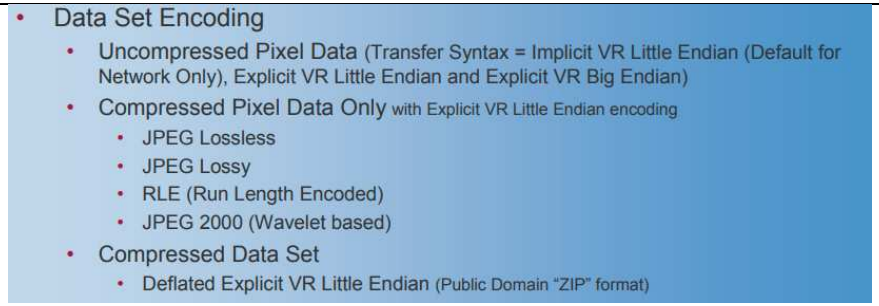


Fig. 15

Source: http://dicom.nema.org/dicom/Conf-2005/Day-1_Seminar/B11_Simon_BasicDICOMConcepts_v1.pdf, Page 17, Last accessed on April 8, 2021, Exhibit H

Citation 16: DICOM messages

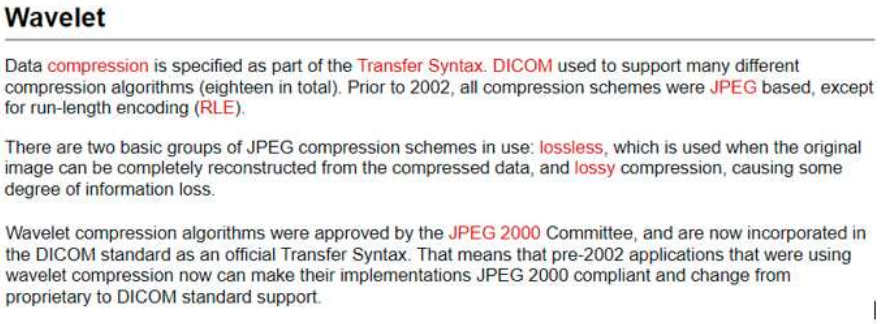
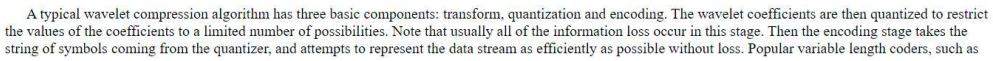
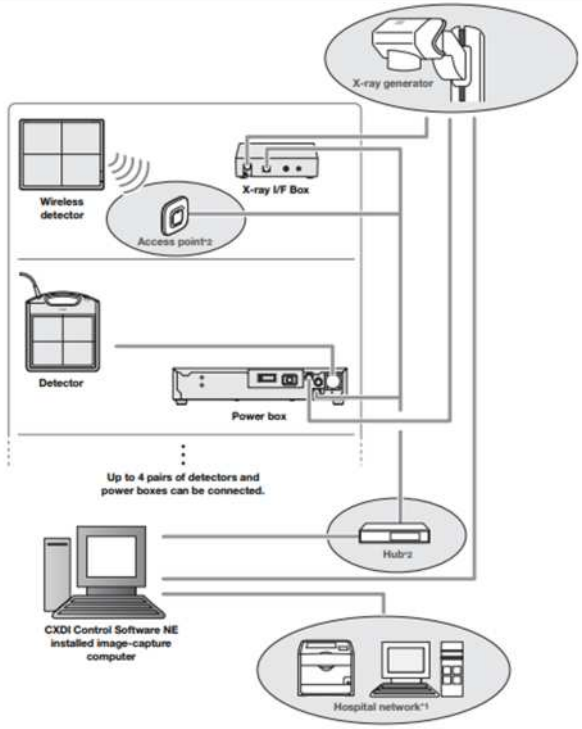


Fig. 16

Source: http://www.otpedia.com/entryDetails.cfm?id=213, Page 1, Last accessed on April 8, 2021, Exhibit I

	As an example, a typical wavelet compression algorithm uses wavelet coefficients in wavelet transform. The wavelet coefficients are quantized and later encoded into the data stream of the compressed bitstream. See Fig. 17 **Citation 17: Wavelet Compression Algorithm using Wavelet Coefficients**  A typical wavelet compression algorithm has three basic components: transform, quantization and encoding. The wavelet coefficients are then quantized to restrict the values of the coefficients to a limited number of possibilities. Note that usually all of the information loss occur in this stage. Then the encoding stage takes the string of symbols coming from the quantizer, and attempts to represent the data stream as efficiently as possible without loss. Popular variable length coders, such as Fig. 17 Source: https://www.nlm.nih.gov/research/visible/vhpconf98/AUTHORS/PARK/SECTION2.HTM, Page 1, Last accessed on April 8, 2021, Exhibit K Further, the DICOM transfer syntax for compressing images constrains the absolute error value between the source and reconstructed image to a finite value that is included in the compressed bitstream. See Fig. 18 **Citation 18: Transfer Syntax Encoding Error Value in the DICOM Message**

	Two Transfer Syntaxes are specified for JPEG-LS: 1. A Transfer Syntax with a UID of1.2.840.10008.1.2.4.80, which specifies the use of the lossless mode of JPEG-LS. In this mode the absolute error between the source and reconstructed images will be zero. 2. A Transfer Syntax with a UID of1.2.840.10008.1.2.4.81, which specifies the use of the near-lossless mode of JPEG-LS. In this mode, the absolute error between the source and reconstructed images will be constrained to a finite value that is conveyed in the compressed bit stream. Note that this process can, at the discretion of the encoder, be used to compress images with an error constrained to a value of zero, resulting in no loss of information. Fig. 18 Source: http://dicom.nema.org/dicom/supps/sup61_04.pdf, Page 29, Last accessed on April 8, 2021, Exhibit J
1c. enabling transmission of the messages to at least one device via at least one wireless link.	The method practiced by the accused product comprises enabling transmission of the messages to at least one device via at least one wireless link. The accused product uses CXDI Control Software NE, which enables transmission of the DICOM messages to at least one device (like devices in Hospital network) via at least one wireless link as shown in Fig. 19. **Citation 19: CXDI Control Software NE – Hardware Configuration**



*1 Consists of DICOM standard compatible equipment (HIS/RIS, PACS, printer, storage device, etc).

Fig. 19

Source: https://manualzz.com/doc/6708361/cxdi-control-software-ne-setup-guide, Page 8, Last accessed on September 29, 2020, Exhibit C

For example, Fig. 20 shows CXDI-80C Wireless Digital Radiography System (CXDI - 80C), which is a wireless detector as shown in Fig. 19. The CXDI - 80C uses IEEE 802.11n (2.4 & 5.0 GHz) for transmission of the DICOM messages to other devices. See Fig. 21.

Citation 20: CXDI-80C Wireless Digital Radiography System

Fig. 20

Source: https://www.usa.canon.com/internet/portal/us/home/products/details/digital-radiography-fluoroscopy/digital-detectors/cxdi-80c, Page 1, Last accessed on September 29, 2020, Exhibit E

Citation 21: CXDI-80C Wireless Digital Radiography System -Specifications

Data Output and Network Connection

Wireless Standard	IEEE 802.11n (2.4 & 5.0 GHz)
DICOM	DICOM 3.0 Compatible, Print Management Service Class (SPU), Storage Service Class (SCU), and Others

Fig. 21

	Source: http://downloads.canon.com/nw/pdfs/healthcare/cxdi-80c-specs.pdf, Page 1, Last accessed on September 29, 2020, Exhibit F